

## Coast Guard, DHS

## § 162.050-19

(1) Except as provided in paragraph (f)(2) of this section, the absolute value of  $T_n$  for each measurement, as determined by the American Society for Testing and Materials, "Standard Practice for Determination of Precision and Bias of Methods of Committee D-19 on Water", D 2777 (incorporated by reference, see § 162.050-4), must be less than or equal to 2.29 at a confidence level of 0.05.

(2) The absolute value of  $T_n$  for one measurement may exceed 2.29 if the  $T_n$  values for the other eleven measurements are less than or equal to 2.23 at a confidence level of 0.05. If the  $T_n$  value for one measurement exceeds 2.29, that measurement is not used in the method described in paragraph (f)(3) of this section.

(3) The value of  $\bar{X} \leq$  for the 12 measurements described in paragraph (e) of this section, or for 11 measurements if paragraph (f)(2) of this section applies, must be within the range of  $-1 \bar{X} \leq +1$  at a minimum confidence level of 0.01 when  $\bar{X} \leq$  is determined by the method described in paragraph 3-3.1.4 of "Experimental Statistics", National Bureau of Standards Handbook No. 91 (October 1966).

(g) To obtain authorization to conduct approval tests—

(1) A facility must have the management organization, equipment for conducting sample analysis, and the materials necessary to perform the tests;

(2) Each facility test rig must be of a type described in § 162.050-17 or § 162.050-19;

(3) The loss or award of a specific contract to test equipment must not be a substantial factor in the facility's financial well being;

(4) The facility must be free of influence and control of the manufacturers, suppliers, and vendors of the equipment; and

(5) The oil content measurements submitted to the Commandant must meet the criteria in paragraph (f) of this section.

(h) A facility may not subcontract for approval testing unless previously authorized by the Coast Guard. A request for authorization to subcontract must be sent to the Commanding Officer, U.S. Coast Guard Marine Safety Center, Engineering Division, JR10-

0525, 2100 2nd Street, SW., Washington, DC 20593.

[44 FR 53359, Sept. 13, 1979, as amended by CGD 82-063b, 48 FR 45114, Oct. 3, 1983; CGD 88-070, 53 FR 34537, Sept. 7, 1988; CGD 95-072, 60 FR 50467, Sept. 29, 1995; CGD 96-041, 61 FR 50734, Sept. 27, 1996; USCG-1999-5151, 64 FR 67185, Dec. 1, 1999; USCG 2001-10224, 66 FR 48621, Sept. 21, 2001; USCG-2007-29018, 72 FR 53968, Sept. 21, 2007]

### § 162.050-17 Separator test rig.

(a) This section contains requirements for test rigs used in approval testing of separators. A diagram of a typical test rig is shown in Figure 162.050-17(a).

(b) Each mixture pump on a test rig must—

(1) Be a centrifugal pump capable of operating at one thousand (1,000) revolutions per minute or more;

(2) Have a delivery capacity of at least one and one half (1.5) times the maximum throughput at which the separator being tested is designed to operate;

(3) Have a maximum delivery pressure that is equal to or greater than the maximum influent pressure at which the separator is designed to operate; and

(4) Have either bypass piping to its suction side or a throttle valve or orifice on its discharge side.

(c) The inlet piping of the test rig must be sized so that—

(1) Influent water flows at a Reynolds Number of at least ten thousand;

(2) The influent flow rate is between one and three meters per second; and

(3) Its length is at least twenty (20) times its inside diameter.

(d) Each sample point on a test rig must meet the design requirements described in Figure 162.050-17(e) and must be in a vertical portion of the test rig piping.

### § 162.050-19 Monitor and bilge alarm test rig.

(a) This section contains requirements for test rigs used in approval testing of monitors and bilge alarms. A typical test rig is described in Figure 162.050-19. The mixture pipe shown in Figure 162.050-19 is the portion of test rig piping between the oil injection point and the monitor or bilge alarm piping.

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(b) Each sample point on a test rig must be of the type described in Figure 162.050-17(e) and must be in a vertical portion of the test rig piping.

(c) Each test rig must have a centrifugal pump that is designed to oper-

ate at one thousand (1,000) revolutions per minute or more.

(d) The mixture pipe on a test rig must have a uniform inside diameter.

**FIGURE 162,050—17(a) - SEPARATOR TEST RIG**

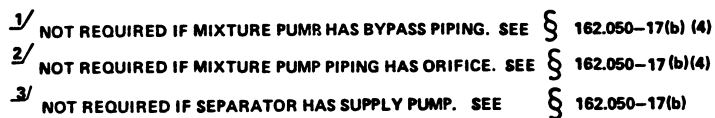
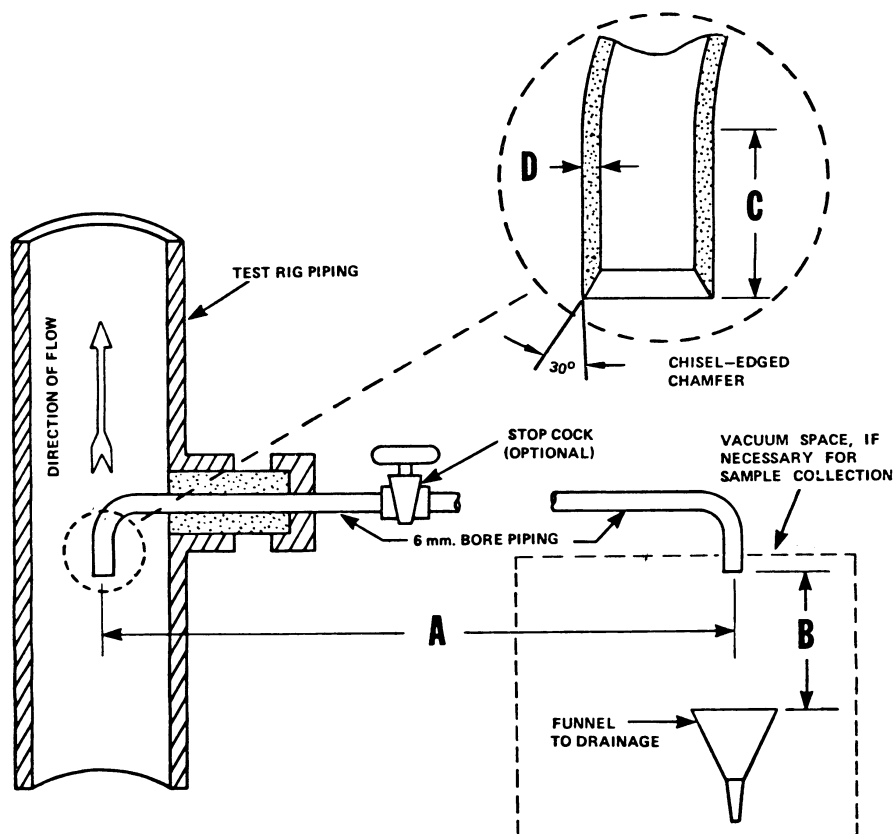
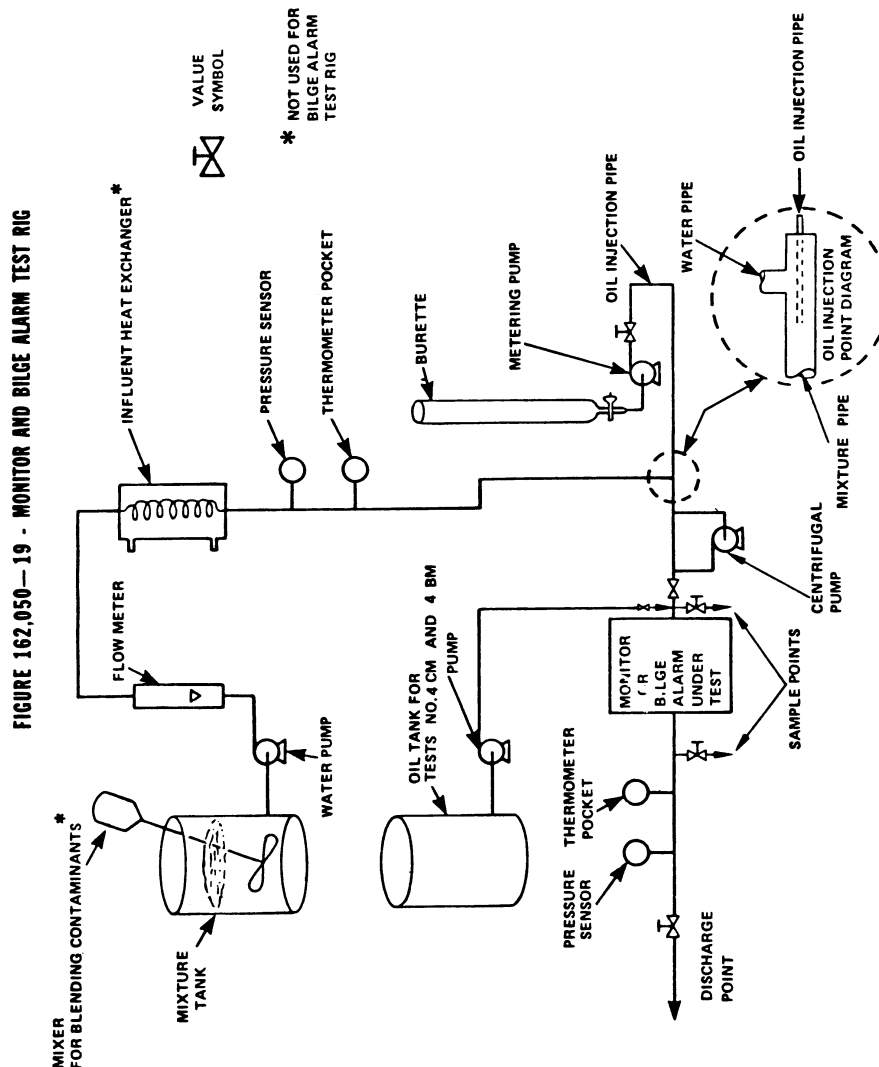


FIGURE 162,050-17(e) - SAMPLE POINT



- A** dimension A is not greater than 400 mm.
- B** height B is large enough to insert a sample bottle.
- C** distance C is a straight line of not less than 60 mm.
- D** width D is not greater than 2 mm.



**§ 162.050-21 Separator: Design specification.**

(a) A separator must be designed to operate in each plane that forms an angle of 22.5° with the plane of its normal operating position.

(b) The electrical components of a separator that are to be installed in an explosive atmosphere must be approved by an independent laboratory as com-

ponents that Underwriters Laboratories Standard 913 (dated April 8, 1976) defines as intrinsically safe for use in a Class I, Group D hazardous location.

(c) Each separator component that is a moving part must be designed so that its movement during operation of the separator does not cause formation of static electricity.